

# PATENT ABSTRACTS OF JAPAN

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(71)Applicant : SONY CORP

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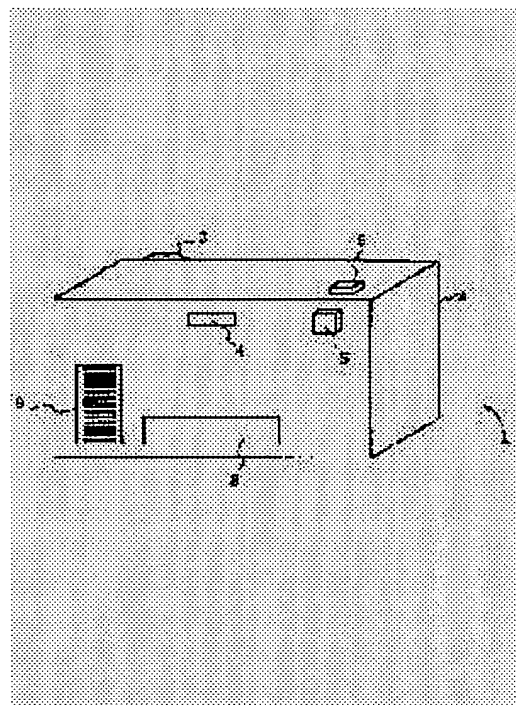
(72)Inventor : HIRAI JUN

## (54) RECYCLABLE MOVING IMAGE CAMERA AND VIDEO REPRODUCING DEVICE

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To enable a camera to pick up moving image with a simple portable type and to make a camera main body recyclable by disposing the selection means of moving images and still images to the outside of a case body with a lens and disposing an image pickup means, the control means and a battery in the interior of the case body made of a lightweight member.

**SOLUTION:** In this recyclable moving image camera 1, the lens 3, a finder 4, a moving image button 5 and a still image button 6 are disposed to the outside of an outer case 2 formed by cardboard. An HDD substrate which is a signal processing circuit part is disposed in the interior of the outer case 2, the moving image button 5 for controlling moving image pickup is disposed on the right side of the finder 4 on a back surface and the still image button 6 is provided on a position corresponding to the moving image button 5 on the upper surface of the camera 1. Also, the battery incorporated in the camera 1 is turned to a capacity for ending write to a recording medium for one time, and after image pickup is ended, the cardboard on the bottom surface of the camera 1 is torn, a connector is exposed and reproduction and charging are performed. Further, a displaying column 8 for entering a valid time limit is provided on the outer case 2 and an individual ID 9 is displayed.



## LEGAL STATUS

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**CLAIMS**

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**[Claim(s)]**

[Claim 1] The animation / still picture selection means for changing by the lightweight member, being arranged in the exterior of the case with which a lens is prepared, and the above-mentioned case, and choosing and picturizing an animation or a still picture, it arranges in the interior of the above-mentioned case -- having -- an animation -- and -- or with an image pick-up means to picturize a still picture to a record medium the animation which was equipped with the control means which controls the above-mentioned image pick-up means, and the dc-battery arranged in the interior of the above-mentioned case, and was recorded on the above-mentioned record medium -- and -- or the recycle animation camera characterized by therefore reproducing a still picture to a predetermined regenerative apparatus.

[Claim 2] The recycle animation camera according to claim 1 characterized by giving the separately different distinction section to the above-mentioned case.

[Claim 3] the above-mentioned record medium -- and -- or the recycle animation camera according to claim 1 characterized by having the accounting system which imposes the predetermined amount of money according to the operating condition of the above-mentioned dc-battery.

[Claim 4] a recycle animation camera -- therefore -- an animation -- and -- or the picture reproducer characterized by having an amendment means to amend a video signal among the record signals of the record medium which had the still picture recorded.

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DETAILED DESCRIPTION

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## [Detailed Description of the Invention]

[0001]

[Table of Contents] This invention is explained in order of the following.

The whole gestalt (1) recycle animation camera configuration of operation of technical-problem The means for solving a technical problem invention which technical field Prior-art invention to which invention belongs tends to solve ( drawing 1 and drawing 2 )

(1-1) The recording system of a recycle animation camera ( drawing 3 and drawing 4 )

(1-2) Image re-gray goods of a record medium ( drawing 5 )

(2) The image pick-up of an animation with a recycle animation camera, and a still picture ( drawing 3 and drawing 4 )

(3) Other examples (drawing 6)

Effect-of-the-invention [0002]

[Field of the Invention] Especially this invention applies and is suitable for the recycle animation camera which can picturize an animation and a still picture and can recycle the body of a camera about a recycle animation camera and picture reproducer.

[0003]

[Description of the Prior Art] The 8mm camcorder etc. is used in order to record an image on videotape conventionally. Although there is a camcorder/movie (Video Tape Recorder) as an 8mm camcorder and the camcorder/movie concerned is extremely generalized in current, there are some points which are not user-friendly. For example, the weight of a body is heavy and inconvenient to carrying. Before using a body, it is necessary to charge a dc-battery beforehand. The body price at the time of purchasing is expensive. In order for a user to record a desired image on videotape, it is necessary to prepare the cassette which is a record medium. Connection with television is difficult. Thus, various faults are got.

[0004]

[Problem(s) to be Solved by the Invention] By the way, a disposable camera has the advantage which is described below to an above-mentioned camcorder/movie. For example, it is a miniaturization light weight. It is not necessary to consider the thing of exchange of a dc-battery or charge. It is cheap and a body can be purchased. Preparation and receipts and payments of a film are unnecessary. It is not necessary to consider the thing of connection. Thus, it turns out that it is simple for whether your being Haruka. For this reason, although the camcorder/movie which has the simplicity of the disposable camera average which has the above advantages can be considered, now, it is not produced commercially.

[0005] This invention was made in consideration of the above point, tends to picturize an animation and a still picture with a simple pocket mold, and tends to propose the recycle animation camera and picture reproducer which can recycle the body of a camera.

[0006]

[Means for Solving the Problem] the animation / still picture selection means for choosing and picturizing an animation or a still picture to the exterior of a case in which it grows into by the lightweight member in this invention in order to solve this technical problem, and a lens is prepared -- allotting -- an animation -- and -- or an image pick-up means picturize a still picture to a record medium, the control means which controls the image pick-up means concerned, and the animation which arranged the dc-battery in the interior of a case, and was recorded on the record medium -- and -- or therefore, a still picture reproduces to a predetermined regenerative apparatus.

[0007] Therefore, an animation or a still picture is chosen as the animation / still picture selection means arranged in the exterior of a case in which it grows into by the lightweight member and a lens is prepared at arbitration. the dc-

battery, control means, and image pick-up means which were arranged in the interior of a case -- therefore -- an animation -- and -- or the animation which picturized the still picture to the record medium and was recorded on the record medium concerned -- and -- or by therefore reproducing a still picture to a predetermined regenerative apparatus. An animation and a still picture tend to be picturized with a simple pocket mold, and it is going to propose the recycle animation camera and picture reproducer which can recycle the body of a camera.

[0008]

[Embodiment of the Invention] About a drawing, one example of this invention is explained in full detail below.

[0009] (1) In the whole recycle animation camera block diagram 1, the recycle animation camera 1 in one example of this invention is shown, and the transverse plane, the tooth back, top face, and base of an appearance of the recycle animation camera 1 are shown in drawing 2, respectively. The recycle animation camera 1 consists of the lens 3 arranged in the exterior of outside \*\* 2 formed with the board, a finder 4, an animation carbon button 5, and a still picture carbon button 6. The HDD substrate (not shown) which is the digital-disposal-circuit section is arranged on the interior of \*\* 2 outside this recycle animation camera 1. A lens 3 is arranged in the transverse plane of the recycle animation camera 1, it applies to a transverse plane from a tooth back, and the finder 4 is formed. Moreover, the animation carbon button 5 for controlling an animation image pick-up on the right-hand side of a finder 4 is arranged in this tooth back, and the still picture carbon button 6 is formed in the top face of the recycle animation camera 1, and the correspondence location with the animation carbon button 5.

[0010] the configuration which the connector 7 used by tearing a board in the base of the recycle animation camera 1 at the time of playback and charge exposes -- intermediary \*\*\*\*. After a user's image pick-up termination, a connector 7 moves HDD (hard disk) in a lab etc., and is made as [ reproduce / take out a regenerative signal and ]. Incidentally, the regenerative circuit of most, such as expanding of the data based on demulti pre TSUKUSU and decoding, is made as [ perform / by the regenerative apparatus of a lab ], and is later mentioned about this.

[0011] About the dc-battery, it is built in the recycle animation camera 1, consider as the capacity to finish writing to a record medium once, and let charge and exchange fundamentally be those of a limping gait trap potato. This recycle animation camera 1 is made as [ carry out / as a process for resale / therefore, carry out a DEYUPU lied to taking out to a lab at the tape of 8mm or VHS, and / in a lab / charge or exchange of a dc-battery ].

[0012] As shown in above-mentioned drawing 1, the display column 8 for expiration date entry is formed in \*\* outside the recycle animation camera 1. When the expiration date indicated by this display column 8 passes, it is made as [ charge / to a user / the predetermined amount of money ]. Individual ID9 of a body other than the display column 8 is displayed on \*\* outside the recycle animation camera 1. This individual ID9 is for registering the number and individual ID9 of cards which can do accounting, such as a credit card, at the time of purchase, and automating accounting. Moreover, when recycle animation camera 1 body is returned to a lab, since exchange of a dc-battery and use of a regenerative function can therefore judge a \*\*\*\*\* thing to change of \*\* outside a board being torn etc., they can charge a card according to this. Moreover, when returning a tape and a print to a user, it is made as [ show / card information / the address of a return place ]. \*\*\*\*\* ID is attached for every recycle animation camera, and this individual ID9 is broadly treated as information management, such as accounting.

[0013] (1-1) In the record pedigree table 3 and drawing 4 of a recycle animation camera, the configuration of the recording system 10 of the signal-processing section built in the recycle animation camera 1 of this invention is shown. A recording system 10 is a configuration on condition of taking out the recycle animation camera 1 to a lab, and does not make a record medium RIMUBARU like a tape. For example, an image and voice are compressed into HDD of 1 [GB], and it considers as 6 [Mbps] in all extent, and is an animation for 20 minutes. It enables it to record the still picture of 100 sheets. Incidentally, the recording system 10 consists of recording system 10a of drawing 3, and recording system 10b of drawing 4.

[0014] This recording system 10 has image processing and speech processing, and is connected as record processing of an image in order of the CCD camera section 11, A/D converter 12, the camera signal-processing section 13, and the image data compression section 14. CCD16 and the sampling hold circuit 17 where the CCD camera section 11 inputs the synchronizing signal S1 from the synchronizing signal generating circuit 15 -- intermediary \*\*\*\*. moreover, the pre-filter 24 which the camera signal-processing section 13 has the color separation circuit 19 for therefore forming a color-difference signal (R-Y, B-Y) in an output signal S2 from AGC18, 1H delay line 20, synchronization processing, RGB and a matrix 21 and the color difference formation circuit 22, and the low pass filter 23 that band-limits in order to form a luminance signal (Y) in an output signal S2 therefore, and minds these signals (R-Y, B-Y, Y) -- intermediary \*\*\*\* ( drawing 3 ).

[0015] Moreover, there are a microphone 25, AGC26, A/D converter 27, and the speech compression section 28 as audio record processing. The recording system 10 is made as [ record / compressed data / the compressed data obtained

from each data compression sections 14 and 28 of an image and voice is sent out further through a multiplexer 30 respectively through ECC 29a and 29b to HDD31, and ]. Therefore at this time, the image data compression section 14, the speech compression section 28, a multiplexer 30, and HDD31 are controlled from a control circuit 32 to a control signal.

[0016] (1-2) In image re-gray-goods drawing 5 of a record medium, the configuration of the image re-gray goods 40 for reproducing the record medium of the recycle animation camera 1 is shown. This is used as a regenerative apparatus generally installed in a lab. It is made as [ connect / the recording system 10 built in the recycle animation camera 1 / to the playback machine 40 / through a connector 7 ]. This playback machine 40 consists of demulti pre TSUKUSU 41, ECC 42a and 42b, the picture compression decoding 43, the speech compression decoding 44, a white balance 45, a gamma correction 46, 1H delay line 47, profile amendment 48, etc.

[0017] As for demulti pre TSUKUSU 41 of the playback machine 40 connected to the hard disk drive 31 of a recording system 10, ECC42b for sound signals and ECC42a for picture signals are connected. The speech compression decoding 44 is connected to ECC42b for sound signals, and it connects with VTR49 at it. Moreover, the picture compression decoding 43 is connected to ECC42a for picture signals, and it is made as [ divide / into a luminance signal (Y) and a chrominance signal (R-Y, B-Y) ]. The gamma correction circuit 46, 1H delay line 47, and the profile amendment circuit 48 of recycle animation camera 1 body with which a recording system 10 is not equipped are connected to the luminance-signal output side of the picture compression decoding 43 in order. Moreover, it connects with the chrominance-signal output side in order of the white balance 45 and the color modulation 50. The video signal S10 acquired with this luminance signal (Y) and chrominance signal (R-Y, B-Y) is connected so that it may be sent out to each of VTR49 and a printer 51.

[0018] (2) In the configuration more than the image pick-up of an animation with a recycle animation camera, and a still picture, when a user picturizes an animation using the recycle animation camera 1, an image pick-up begins because a user pushes the animation carbon button 5. The image therefore televised is led to the camera signal-processing section 13 through the sampling hold circuit 17 and A/D converter 12 at the CCD camera section 11. Here, the output signal S2 from AGC18 is bisected, a color-difference signal (R-Y, B-Y) is formed because one side minds the color separation circuit 19, 1H delay line 20, synchronization processing, RGB and a matrix 21, and the color difference formation circuit 22, and another side band-limits by minding a low pass filter 23, and forms a luminance signal (Y). These signals (R-Y, B-Y, Y) are outputted to a multiplexer 30 through the picture compression section 14 and ECC29a from a pre-filter 24.

[0019] Moreover, the voice therefore collected is outputted to a microphone 25 to a multiplexer 30 through AGC26, A/D converter 27, the speech compression section 28, and ECC29b. Therefore, both an image and voice are sent out to this multiplexer 30 to a hard disk 31, and are recorded on it. Moreover, when picturizing a still picture, therefore an image pick-up is started by that a user pushes the still picture carbon button 6, and only image processing is performed.

[0020] As individual ID of a body can be read, accounting is automated by making the number and individual ID of cards which can do accounting, such as a credit card, register at the time of purchase. For this reason, when a body is returned to a lab, it is exchangeable in a dc-battery, or when it is in the condition that the regenerative function was used, according to it, a card can be charged from change of \*\* outside the board being torn etc. Moreover, when returning a tape and a print, card information shows the address of a return place.

[0021] Moreover, the price of the body of a camera is sold and cut off. For example, if it is an equivalent for 80,000 yen, the body of a camera of \*\* is recycled, and if it is going to collect by 20 times, it will become about 4000 yen selling price. However, after sale, also when not taken out to a lab, it thinks. Then, an expiration date is displayed, and when are not taken out to a lab by the date and the recycle animation camera 1 is purchased with a credit card, the predetermined amount of money is pulled down from the card concerned. On the other hand, intermediary \*\*\*\* [ as ] to which in cash purchase a deposit is paid and the deposit concerned does not return at the time of purchase.

[0022] According to the above configuration, it excels in portability very much by arranging the HDD substrate which is the digital-disposal-circuit section, allotting the connector 7 used the base of the recycle animation camera 1, and inside outside \*\* 2 at the time of playback and charge to the interior of the recycle animation camera 1 with which the lens 3, the finder 4, the animation carbon button 5, and the still picture carbon button 6 were arranged in the exterior of outside \*\* 2 formed with the board, and making a dc-battery build in it. For example, even if it does not bring from an origin in the cases, such as a travel, it purchases in the stand of the destination, and if it takes out to a lab, the time and effort which carries recycle animation camera 1 body can be saved after use. Moreover, prior preparation of a cassette, a dc-battery, etc. is unnecessary. Furthermore, what is necessary is for a user not to do connection with a regenerative apparatus etc. and just to take out to a lab the whole body. From these things, a quite user-friendly recycle animation camera is made.

[0023] Moreover, since individual ID9 of the display column 8 for expiration date entry or a body is displayed on \*\* outside the recycle animation camera 1, an accounting system can be used. When a user uses cards which can do accounting, such as a credit card, at the time of purchase, it can have in various applications, such as a tape after accounting by exchange of the dc-battery at the time of return, or use of a regenerative function, and a result, and investigation of the return place of a print, can be in automation of accounting, and a lab, and can treat broadly as information management.

[0024] (3) Although what takes out to a lab, is made to drive HDD by connecting the playback machine 40 to the connector 7 currently arranged in the base of the recycle animation camera 1, takes out a regenerative signal, and is reproduced was described in other examples, in addition above-mentioned examples after the user did image pick-up termination This invention may enable it to reproduce a user by tearing some boards which are \*\* outside a recycle animation camera, exposing a connector 7, and connecting the connector 7 concerned and an exclusive playback machine besides taking out not only this but a body to a lab. Moreover, you may enable it to edit yourself [ user ] in the booth of a lab. In this case, what is necessary is just to usually charge an accounting system according to each playback approach unlike processing. For example, what is necessary is just to charge according to these mark, in case mark are recorded on HDD and take out a body to a lab according to the playback time amount of user use.

[0025] Moreover, although the recycle animation camera 1 with which a dc-battery shall be built in the recycle animation camera 1, it shall consider as the capacity to finish writing to a record medium once in an above-mentioned example, and a user shall not perform charge and exchange fundamentally was described Therefore, charge and exchange may be made to be made to this invention tearing the board of an outside -- not only this but a user breaks a part of \*\* outside a recycle animation camera. In this case, various things can be considered about an accounting system. For example, the count of charge is made to record on HDD within a body, and you may make it charged according to this count.

[0026] Moreover, in an above-mentioned example, although what arranges the animation carbon button 5 and the still picture carbon button 6 in \*\* 2 outside the recycle animation camera 1 was described, that this invention arranges the changeover switch of not only this but an animation/still picture, and arranges only one record carbon button etc. should just be the configuration which is intermingled and can record an animation and a still picture.

[0027] the configuration whose this invention added various functions, such as not only this but a zoom, although the recycle animation camera 1 which picturizes the animation and still picture of a request of a user was described in the further above-mentioned example -- you may make it picturize an animation and a still picture with an intermediary \*\*\*\* recycle animation camera

[0028] Moreover, in an above-mentioned example, although the used recycle animation camera 1 described the thing reproducible when a user brings in a lab equipped with a regenerative apparatus, this invention prepares a \*\*\*\*\* transmission unit not only with this but a charge function, a regenerative function, and the function of transmission, and it may be made to carry out \*\*\*\*\* transmission of the communication line from a lab without a full-scale duplicate function to a full-scale lab.

[0029] In a further above-mentioned example, although the thing using a hard disk as a record medium was described, this inventions should just be early record media of access, such as not only this but semiconductor memory, and an optical disk.

[0030]

[Effect of the Invention] the animation / still picture selection means for choosing and picturizing an animation or a still picture to the exterior of a case in which it grows into by the lightweight member and a lens is prepared according to this invention as mentioned above -- allotting -- an animation -- and -- or with an image pick-up means to picturize a still picture to a record medium the control means which controls the image pick-up means concerned, and the animation which arranged the dc-battery in the interior of a case, and was recorded on the record medium -- and -- or a still picture by making it reappear therefore to a predetermined regenerative apparatus An animation and a still picture are picturized with a simple pocket mold, and the recycle animation camera which can recycle the body of a camera can be realized.

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**DESCRIPTION OF DRAWINGS**

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**[Brief Description of the Drawings]**

[Drawing 1] It is the \*\*\*-perspective view showing the appearance of the recycle animation camera of this invention.

[Drawing 2] It is the abbreviation diagram showing the transverse plane, the tooth back, top face, and base of the recycle animation camera shown in drawing 1.

[Drawing 3] It is the block diagram showing the recording system of a recycle animation camera.

[Drawing 4] It is the block diagram showing the recording system of a recycle animation camera.

[Drawing 5] It is the block diagram showing the image reproduction machine of a recycle animation camera.

**[Description of Notations]**

1 [ .. A finder, 5 / .. An animation carbon button, 6 / .. A still picture carbon button, 7 / .. A connector, 8 / .. The display column, 9 / .. Individual ID, 10 / .. A recording system, 11 / .. The CCD camera section, 13 / .. The camera signal-processing section, 31 / .. A hard disk, 40 / .. Playback machine ] .... A recycle animation camera, 2 .. Outside \*\*, 3 .. A lens, 4

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## DRAWINGS

[Drawing 1]

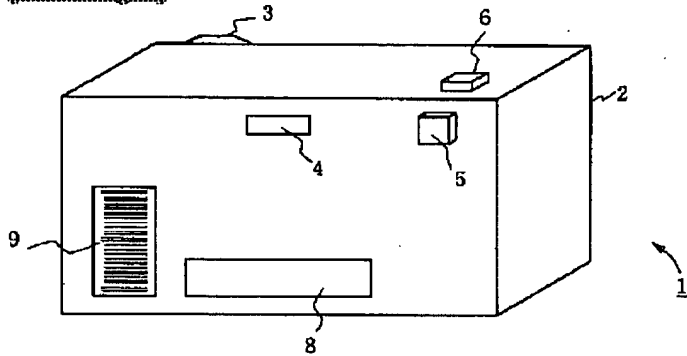


図1 リサイクル動画カメラ

[Drawing 2]

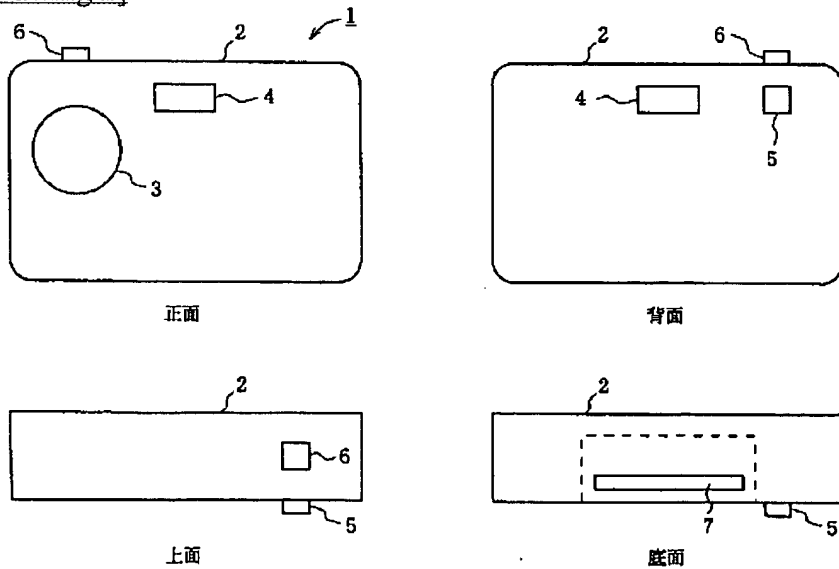


図2 リサイクル動画カメラ

[Drawing 3]

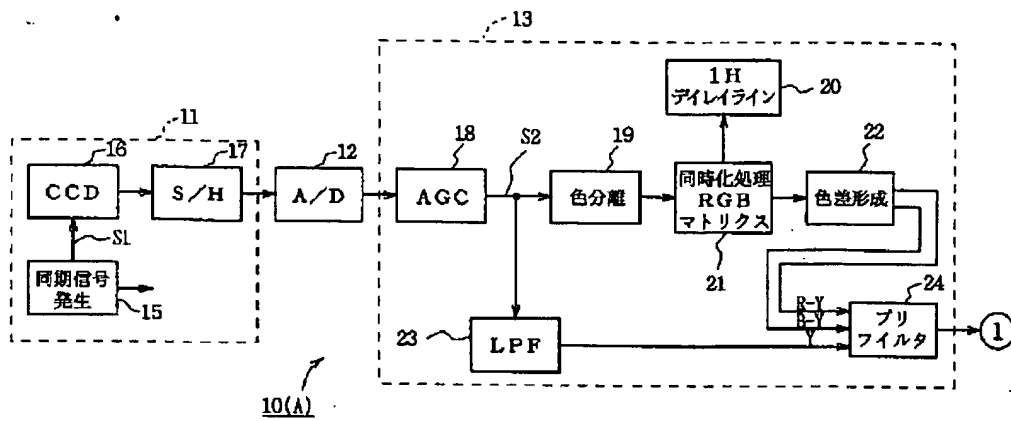


図3 リサイクル動画カメラの記録系 (1)

[Drawing 4]

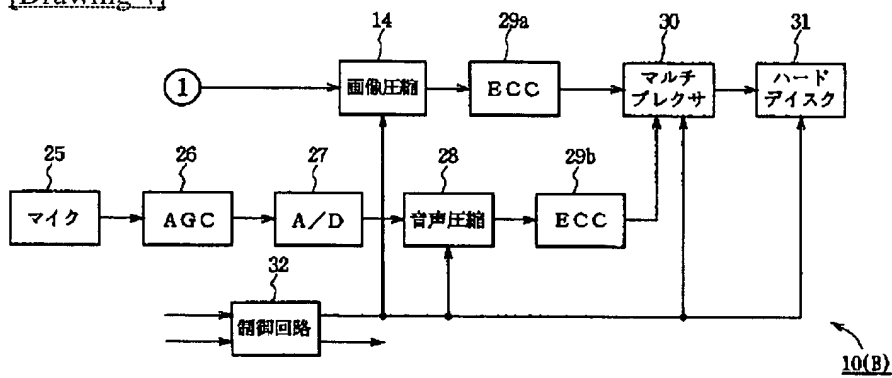


図4 リサイクル動画カメラの記録系 (2)

[Drawing 5]

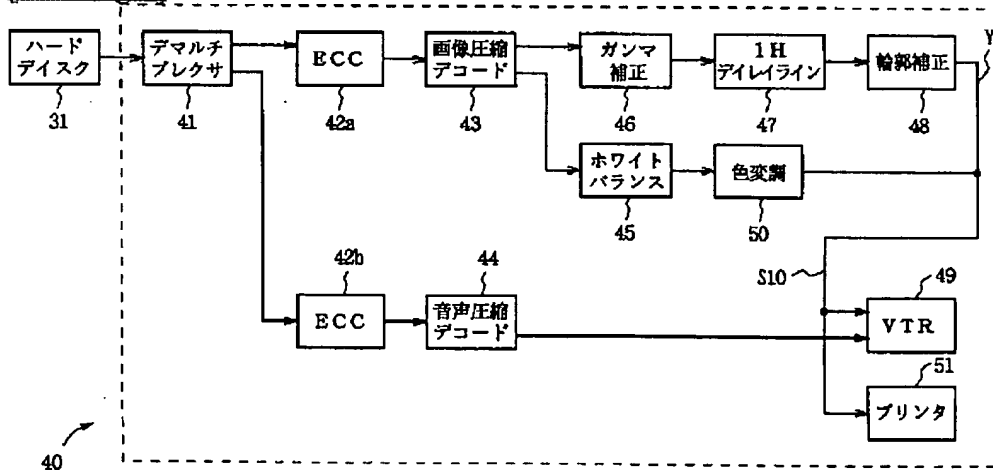


図5 リサイクル動画カメラの再生機

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CORRECTION OR AMENDMENT

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[Kind of official gazette] Printing of amendment by the convention of 2 of Article 17 of Patent Law  
 [Section partition] The 3rd partition of the 7th section  
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[Procedure revision]  
 [Filing Date] June 15, Heisei 13 (2001. 6.15)  
 [Procedure amendment 1]  
 [Document to be Amended] Specification  
 [Item(s) to be Amended] Claim  
 [Method of Amendment] Modification  
 [Proposed Amendment]  
 [Claim(s)]  
 [Claim 1] The case with which a lens is prepared,  
 The image pick-up means arranged in the above-mentioned case which picturizes an animation or a still picture,  
 it arranges in the interior of the above-mentioned case -- having -- an animation -- and -- or a record means to record a  
 still picture on a record medium,  
 The control means which controls the above-mentioned image pick-up means and the above-mentioned record means  
 \*\*\*\*\* -- the recycle animation camera characterized by things.  
 [Claim 2] In the above-mentioned case  
 The separately different distinction section is attached.  
 The recycle animation camera according to claim 1 characterized by things.  
 [Claim 3] the above-mentioned record medium -- and -- or it has the accounting system which imposes the  
 predetermined amount of money according to the operating condition of the above-mentioned dc-battery  
 The recycle animation camera according to claim 1 characterized by things.  
 [Claim 4] a recycle animation camera -- therefore -- an animation -- and -- or an amendment means to amend a video  
 signal among the record signals of the record medium which had the still picture recorded  
 \*\*\*\*\* -- the picture reproducer characterized by things.  
 [Procedure amendment 2]  
 [Document to be Amended] Specification  
 [Item(s) to be Amended] 0006  
 [Method of Amendment] Modification

[Proposed Amendment]

[0006]

[Means for Solving the Problem] it arranges in the image pick-up means arranged in this invention in the case with which a lens is prepared, and the case which picturizes an animation or a still picture in order to solve this technical problem, and the interior of a case -- having -- an animation -- and -- or the control means which controls a record means to record a still picture on a record medium, and an image pick-up means and a record means concerned was established.

[Procedure amendment 3]

[Document to be Amended] Specification

[Item(s) to be Amended] 0007

[Method of Amendment] Modification

[Proposed Amendment]

[0007] Therefore, an animation or a still picture is picturized for the image pick-up means arranged in the case with which a lens is prepared. the record means arranged in the interior of a case -- therefore -- an animation -- and -- or the animation which recorded the still picture on the record medium and was recorded on the record medium concerned -- and -- or by therefore reproducing a still picture to a predetermined regenerative apparatus An animation and a still picture tend to be picturized with a simple pocket mold, and it is going to propose the recycle animation camera and picture reproducer which can recycle the body of a camera.

[Procedure amendment 4]

[Document to be Amended] Specification

[Item(s) to be Amended] 0030

[Method of Amendment] Modification

[Proposed Amendment]

[0030]

[Effect of the Invention] the image pick-up means for picturizing an animation or a still picture as mentioned above in the case with which a lens is prepared according to this invention -- allotting -- an animation -- and -- or with a record means to record a still picture on a record medium the animation which arranged in the interior of a case the control means which controls the image pick-up means concerned and a record means, and was recorded on the record medium -- and -- or a still picture by making it reappear therefore to a predetermined regenerative apparatus An animation and a still picture are picturized with a simple pocket mold, and the recycle animation camera which can recycle the body of a camera can be realized.

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[Translation done.]

PAT-NO: JP409154052A

DOCUMENT-IDENTIFIER: JP 09154052 A

TITLE: RECYCLABLE MOVING IMAGE CAMERA AND VIDEO  
REPRODUCING  
DEVICE

PUBN-DATE: June 10, 1997

INVENTOR-INFORMATION:

NAME

HIRAI, JUN

ASSIGNEE-INFORMATION:

NAME

SONY CORP

COUNTRY

N/A

APPL-NO: JP07337876

APPL-DATE: November 30, 1995

INT-CL (IPC): H04N005/225

ABSTRACT:

PROBLEM TO BE SOLVED: To enable a camera to pick up moving image with a simple portable type and to make a camera main body recyclable by disposing the selection means of moving images and still images to the outside of a case body with a lens and disposing an image pickup means, the control means and a battery in the interior of the case body made of a lightweight member.

SOLUTION: In this recyclable moving image camera 1, the lens 3, a finder 4, a moving image button 5 and a still image button 6 are disposed to the outside of an outer case 2 formed by cardboard. An HDD substrate which is a signal

processing circuit part is disposed in the interior of the outer case 2, the moving image button 5 for controlling moving image pickup is disposed on the right side of the finder 4 on a back surface and the still image button 6 is provided on a position corresponding to the moving image button 5 on the upper surface of the camera 1. Also, the battery incorporated in the camera 1 is turned to a capacity for ending write to a recording medium for one time, and after image pickup is ended, the cardboard on the bottom surface of the camera 1 is torn, a connector is exposed and reproduction and charging are performed. Further, a displaying column 8 for entering a valid time limit is provided on the outer case 2 and an individual ID 9 is displayed.

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(71)出願人 000002185

ソニー株式会社

東京都品川区北品川6丁目7番35号

(72)発明者 平井 純

東京都品川区北品川6丁目7番35号ソニー  
株式会社内

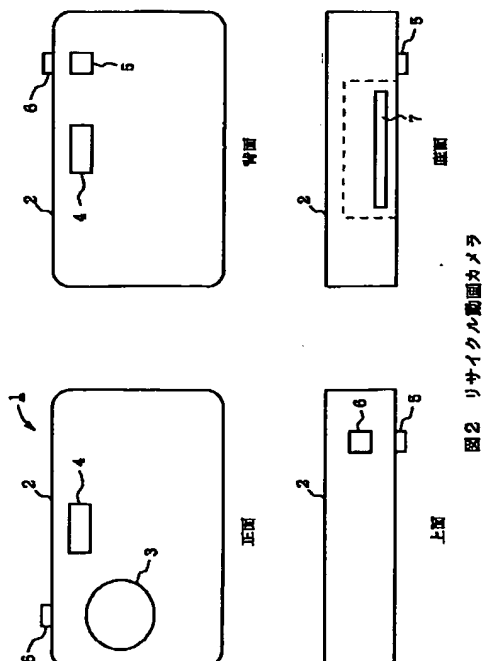
(74)代理人 弁理士 田辺 恵基

(54)【発明の名称】 リサイクル動画カメラ及び映像再生装置

(57)【要約】

【課題】本発明は、リサイクル動画カメラ及び映像再生装置において、簡易携帯型で動画及び静止画を撮像し、カメラ本体をリサイクルし得る。

【解決手段】軽量部材で成り、レンズが設けられる筐体の外部に、動画又は静止画を選択して撮像するための動画／静止画選択手段を配し、動画及び又は静止画を記録媒体に撮像する撮像手段と、当該撮像手段を制御する制御手段と、バッテリーを筐体の内部に配設し、記録媒体に記録された動画及び又は静止画は所定の再生装置によって再現する。



## 【特許請求の範囲】

【請求項1】軽量部材で成り、レンズが設けられる筐体と、

上記筐体の外部に配設され、動画又は静止画を選択して撮像するための動画／静止画選択手段と、

上記筐体の内部に配設され、動画及び又は静止画を記録媒体に撮像する撮像手段と、

上記撮像手段を制御する制御手段と、

上記筐体の内部に配設されるバッテリーとを具え、

上記記録媒体に記録された動画及び又は静止画を、所定の再生装置によつて再現することを特徴とするリサイクル動画カメラ。

【請求項2】上記筐体には、

個々に異なる判別部が付されていることを特徴とする請求項1に記載のリサイクル動画カメラ。

【請求項3】上記記録媒体及び又は上記バッテリーの使用状況に応じて所定金額を課する課金システムを有することを特徴とする請求項1に記載のリサイクル動画カメラ。

【請求項4】リサイクル動画カメラによつて動画及び又は静止画を記録された記録媒体の記録信号のうち、映像信号を補正する補正手段を具えることを特徴とする映像再生装置。

## 【発明の詳細な説明】

## 【0001】

【目次】以下の順序で本発明を説明する。

発明の属する技術分野

従来の技術

発明が解決しようとする課題

課題を解決するための手段

発明の実施の形態

(1) リサイクル動画カメラの全体構成(図1及び図2)

(1-1) リサイクル動画カメラの記録系(図3及び図4)

(1-2) 記録媒体の映像再生機(図5)

(2) リサイクル動画カメラによる動画及び静止画の撮像(図3及び図4)

(3) 他の実施例(図6)

発明の効果

## 【0002】

【発明の属する技術分野】本発明はリサイクル動画カメラ及び映像再生装置に関し、特に動画及び静止画を撮像でき、カメラ本体をリサイクルし得るリサイクル動画カメラに適用して好適である。

## 【0003】

【従来の技術】従来、映像を録画するためには8ミリビデオ等が用いられている。現在では、8ミリビデオとしてカメラ一体型VTR(Video Tape Recorder)があり、当該カメラ一体型VTRは極めて一般化している

が、使い勝手がよくない点がいくつかある。例えば、本体の重量が重く、持ち運びに不便である。本体を使用する前に予めバッテリーを充電しておく必要がある。購入する際の本体価格が高価である。ユーザが所望の映像を録画するためには記録媒体であるカセットを用意しておく必要がある。テレビへの接続が困難である。このように様々な欠点があげられる。

## 【0004】

【発明が解決しようとする課題】ところで、上述のカメラ一体型VTRに対してレンズ付きフィルムは以下に述べるような利点がある。例えば、小型化軽量である。バッテリーの交換や充電の事を考えなくて良い。本体を安価で購入することができる。フィルムの準備や出し入れが不要である。接続の事を考えなくて良い。このように遙かに簡便であることがわかる。このため、上述のような利点を有するレンズ付きフィルム並の簡便さを兼ね備えたカメラ一体型VTRが考えられるが、現在のところ製品化されていない。

【0005】本発明は以上の点を考慮してなされたもので、簡易携帯型で動画及び静止画を撮像し、カメラ本体をリサイクルし得るリサイクル動画カメラ及び映像再生装置を提案しようとするものである。

## 【0006】

【課題を解決するための手段】かかる課題を解決するため本発明においては、軽量部材で成り、レンズが設けられる筐体の外部に、動画又は静止画を選択して撮像するための動画／静止画選択手段を配し、動画及び又は静止画を記録媒体に撮像する撮像手段と、当該撮像手段を制御する制御手段と、バッテリーを筐体の内部に配設し、記録媒体に記録された動画及び又は静止画は所定の再生装置によつて再現する。

【0007】軽量部材で成りレンズが設けられる筐体の外部に配設された動画／静止画選択手段によつて動画又は静止画を任意に選択し、筐体の内部に配設されたバッテリー、制御手段及び撮像手段によつて動画及び又は静止画を記録媒体に撮像し、当該記録媒体に記録された動画及び又は静止画を所定の再生装置によつて再現することにより、簡易携帯型で動画及び静止画を撮像し、カメラ本体をリサイクルすることができるリサイクル動画カメラ及び映像再生装置を提案しようとするものである。

## 【0008】

【発明の実施の形態】以下図面について、本発明の一実施例を詳述する。

【0009】(1) リサイクル動画カメラの全体構成 図1においては、本発明の一実施例におけるリサイクル動画カメラ1を示し、図2においては、リサイクル動画カメラ1の外観の正面、背面、上面及び底面をそれぞれ示す。リサイクル動画カメラ1は、ボール紙で形成された外筐2の外部に配設されたレンズ3、ファインダ4、動画ボタン5及び静止画ボタン6で構成されている。こ



のリサイクル動画カメラ1の外筐2の内部には信号処理回路部であるHDD基板(図示せず)が配されている。リサイクル動画カメラ1の正面にはレンズ3が配設され、背面から正面にかけてファインダ4が設けられている。また、この背面には、ファインダ4の右側に動画撮像を制御するための動画ボタン5が配設されており、リサイクル動画カメラ1の上面かつ動画ボタン5との対応位置には静止画ボタン6が設けられている。

【0010】リサイクル動画カメラ1の底面においては、ボール紙を破ることにより、再生及び充電時に用いられるコネクタ7が露出する構成になっている。コネクタ7は、ユーザの撮像終了後、ラボ等でHDD(ハードディスク)を動かして再生信号を取り出し再生するようになされている。ちなみに、デマルチプレックス、デコードによるデータの伸長など大部分の再生回路はラボの再生装置で行われるようになされており、これについては後述する。

【0011】バッテリーについてはリサイクル動画カメラ1に内蔵されており、記録媒体に一回書き終える分の容量とし、充電、交換は基本的には行わないものとする。このリサイクル動画カメラ1は、ラボに出すことによつて8ミリやVHSのテープにデュプリートし、再販売のためのプロセスとしてラボでバッテリーの充電又は交換をするようになされている。

【0012】前述の図1に示すように、リサイクル動画カメラ1の外筐には有効期限記入用の表示欄8が設けられている。この表示欄8に記載されている有効期限を経過した場合、ユーザに対して所定金額が課金されるようになされている。リサイクル動画カメラ1の外筐には、表示欄8の他に本体の個別ID9が表示されている。この個別ID9は、購入時にクレジットカード等課金のできるカード類の番号と個別ID9を登録して、課金を自動化するためのものである。また、リサイクル動画カメラ1本体がラボに戻された時、バッテリーの交換や再生機能の使用があつたものは、ボール紙が破られる等の外筐の変化によつて判断できるため、これに応じてカードに課金することができる。また、テープやプリントをユーザに送り返す場合、カード情報から返送先の住所がわかるようになされている。この個別ID9は、各リサイクル動画カメラ1ごとに異なつたIDが付されており、課金等の情報管理として幅広く扱われる。

【0013】(1-1)リサイクル動画カメラの記録系図3及び図4においては、本発明のリサイクル動画カメラ1に内蔵されている信号処理部の記録系10の構成を示す。記録系10は、リサイクル動画カメラ1をラボに出すことを前提とした構成であり、記録媒体をテープの様にリムーバブルとしない。例えば、1〔GB〕のHDDに映像及び音声圧縮して合わせて6〔Mbps〕程度とし、20分の動画と100枚の静止画を記録できるようにする。ちなみに、記録系10は図3の記録系10aと図4

の記録系10bとで構成されている。

【0014】この記録系10は、映像処理と音声処理があり、映像の記録処理としてCCDカメラ部11、A/Dコンバータ12、カメラ信号処理部13、画像データ圧縮部14の順に接続されている。CCDカメラ部11は、同期信号発生回路15からの同期信号S1を入力するCCD16とサンプリングホールド回路17でなつている。また、カメラ信号処理部13は、AGC18からの出力信号S2によつて色差信号(R-Y、B-Y)を形成するための色分離回路19、1Hデイレイライン20、同時化処理・RGB・マトリクス21及び色差形成回路22と、出力信号S2によつて輝度信号(Y)を形成するために帯域制限を行うローパスフィルタ23とがあり、これらの信号(R-Y、B-Y、Y)を介すプリフィルタ24でなつている(図3)。

【0015】また、音声の記録処理としてマイク25、AGC26、A/Dコンバータ27、音声圧縮部28がある。記録系10は、映像と音声の各データ圧縮部14、28から得られた圧縮データは、それぞれECC29a、29bを介し、さらにマルチプレックス30を介してHDD31へと送出され記録されるようになされている。このとき画像データ圧縮部14、音声圧縮部28、マルチプレックス30及びHDD31は制御回路32からの制御信号によつて制御される。

【0016】(1-2)記録媒体の映像再生機図5においては、リサイクル動画カメラ1の記録媒体を再生するための映像再生機40の構成を示す。これは一般的にラボに設置される再生装置として用いられる。リサイクル動画カメラ1に内蔵された記録系10をコネクタ7を通じて再生機40に接続するようになされている。この再生機40は、デマルチプレックス41、ECC42a、42b、画像圧縮デコード43、音声圧縮デコード44、ホワイトバランス45、ガンマ補正46、1Hデイレイライン47及び輪郭補正48などで構成されている。

【0017】記録系10のハードディスクドライブ31に接続された再生機40のデマルチプレックス41は、音声信号用のECC42bと画像信号用のECC42aとが接続されている。音声信号用のECC42bには、音声圧縮デコード44が接続され、VTR49へと接続されている。また、画像信号用のECC42aには画像圧縮デコード43が接続されており、輝度信号(Y)と色信号(R-Y、B-Y)とに分けられるようになされている。画像圧縮デコード43の輝度信号出力側には、リサイクル動画カメラ1本体の記録系10に備えられていないガンマ補正回路46、1Hデイレイライン47及び輪郭補正回路48が順に接続されている。また、色信号出力側には、ホワイトバランス45、色変調50の順に接続されている。この輝度信号(Y)及び色信号(R-Y、B-Y)で得られる映像信号S10が、VTR4

9とプリンタ51のそれぞれに送出されるように接続されている。

【0018】(2)リサイクル動画カメラによる動画及び静止画の撮像

以上の構成において、ユーザがリサイクル動画カメラ1を用いて動画を撮像する場合、ユーザが動画ボタン5を押すことで撮像が開始する。CCDカメラ部11によって受像された映像は、サンプリングホールド回路17、A/Dコンバータ12を介してカメラ信号処理部13へと導かれる。ここでは、AGC18からの出力信号S2を二分し、一方は色分離回路19、1Hデイレイライン20、同時化処理・RGB・マトリクス21及び色差形成回路22を介すことで色差信号(R-Y、B-Y)を形成し、他方はローパスフィルタ23を介すことで帯域制限を行い、輝度信号(Y)を形成する。これらの信号(R-Y、B-Y、Y)はアプフィルタ24から画像圧縮部14、ECC29aを介してマルチプレクサ30へと出力される。

【0019】また、マイク25によつて集音された音声は、AGC26、A/Dコンバータ27、音声圧縮部28、ECC29bを介してマルチプレクサ30へと出力される。このマルチプレクサ30によつて映像と音声と共にハードディスク31へと送出されて記録される。また、静止画を撮像する場合、ユーザが静止画ボタン6を押すことによつて撮像が開始され、映像処理のみ行われる。

【0020】本体の個別IDを読みだせるようにして、購入時にクレジットカード等課金のできるカード類の番号と個別IDを登録させることにより課金を自動化する。このため、本体がラボに戻された時点で、バッテリーが交換されたり、再生機能を使われた状態である場合、ボール紙が破られている等の外筐の変化から、それに応じてカードに課金することができる。また、テープやプリントを送り返す場合、カード情報から返送先の住所がわかる。

【0021】また、カメラ本体の価格は売り切りとする。例えば8万円相当とすると、のカメラ本体をリサイクルして20回で回収しようとする4000円程度の売値となる。しかし、販売後、ラボに出されない場合も考えられる。そこで、有効期限を表示し、その期日までにラボへ出されない場合において、リサイクル動画カメラ1をクレジットカードで購入した場合は当該カードから所定金額を引き落とす。これに対して現金購入の場合、購入時に保証金を支払い、当該保証金が返らないようになっている。

【0022】以上の構成によれば、ボール紙で形成された外筐2の外部に、レンズ3、ファインダ4、動画ボタン5及び静止画ボタン6が配設されたリサイクル動画カメラ1の内部に、信号処理回路部であるHDD基板を配し、リサイクル動画カメラ1の底面かつ外筐2の内部に

再生及び充電時に用いられるコネクタ7を配し、バッテリーも内蔵させることにより、携帯性に非常に優れている。例えば、旅行などの際には出発地から持参しなくても、目的地の売店で購入し、使用後、ラボに出せば、リサイクル動画カメラ1本体を運ぶ手間が省ける。また、カセットやバッテリー等の事前準備が不要である。さらに、再生装置との接続等をユーザがやらずに済み、本体ごとラボに出せば良い。これらのことから、かなり使い勝手が良いリサイクル動画カメラができる。

10 【0023】また、リサイクル動画カメラ1の外筐には有効期限記入用の表示欄8や本体の個別ID9が表示されているため、課金システムを用いることができる。購入時にユーザがクレジットカード等課金のできるカード類を用いた場合、課金の自動化、ラボに返却時のバッテリーの交換や再生機能の使用による課金、仕上がり後のテープやプリントの返送先の調査など様々な用途にものちることができる。情報管理として幅広く扱うことができる。

【0024】(3)他の実施例

20 なお上述の実施例においては、ユーザが撮像終了した後ラボに出し、リサイクル動画カメラ1の底面に配設されているコネクタ7に再生機40を接続することによりHDDを駆動させ、再生信号を取り出し再生するものについて述べたが、本発明はこれに限らず、本体をラボに出す以外に、リサイクル動画カメラの外筐であるボール紙の一部を破いてコネクタ7を露出させ、当該コネクタ7と専用再生機とを接続させることにより、ユーザが再生できるようにしても良い。また、ラボのブースで、ユーザ自ら編集できるようにしても良い。この場合、課金システムは、通常処理とは異なり、各再生方法に応じて課金すれば良い。例えば、ユーザ使用の再生時間に応じて点数がHDDに記録され、本体をラボに出す際にこの点数に応じて課金すれば良い。

【0025】また上述の実施例においては、バッテリーはリサイクル動画カメラ1に内蔵され、記録媒体に一回書き終わる分の容量とし、充電、交換は基本的にはユーザが行わないものとするリサイクル動画カメラ1について述べたが、本発明はこれに限らず、ユーザがリサイクル動画カメラの外筐の一部を壊すなど外側のボール紙を破くことによつて充電や交換ができるようにしても良い。この場合、課金システムについては、様々なものが考えられる。例えば、本体内のHDDに充電回数を記録させ、この回数に応じて課金されるようにしても良い。

【0026】また上述の実施例においては、リサイクル動画カメラ1の外筐2に動画ボタン5と静止画ボタン6を配設するものについて述べたが、本発明はこれに限らず、動画/静止画の切り替えスイッチを配設し、記録ボタンを1つだけ配設するなど、動画と静止画を混在して記録できるような構成であれば良い。

50 【0027】さらに上述の実施例においては、ユーザの

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所望の動画や静止画を撮像するリサイクル動画カメラ1について述べたが、本発明はこれに限らず、ズームなど種々の機能を付加した構成でなっているリサイクル動画カメラで動画や静止画を撮像するようにしても良い。

【0028】また上述の実施例においては、使用済みのリサイクル動画カメラ1は、ユーザが再生装置を備えるラボに持参することにより再生できるものについて述べたが、本発明はこれに限らず、充電機能、再生機能、伝送の機能を持った再生伝送ユニットを設け、本格的なデュプリケート機能を持たないラボから本格的なラボへ通信回線を使つて伝送するようにしても良い。

【0029】さらに上述の実施例においては、記録媒体としてハードディスクを用いるものについて述べたが、本発明はこれに限らず、半導体メモリや光ディスク等、アクセスの早い記録媒体であれば良い。

【0030】

【発明の効果】上述のように本発明によれば、軽量部材で成り、レンズが設けられる筐体の外部に、動画又は静止画を選択して撮像するための動画／静止画選択手段を配し、動画及び又は静止画を記録媒体に撮像する撮像手段と、当該撮像手段を制御する制御手段と、バッテリーを筐体の内部に配設し、記録媒体に記録された動画及び又

は静止画は所定の再生装置によつて再現するようにすることにより、簡易携帯型で動画及び静止画を撮像し、カメラ本体をリサイクルし得るリサイクル動画カメラを実現できる。

【図面の簡単な説明】

【図1】本発明のリサイクル動画カメラの外観を示す略線的斜視図である。

【図2】図1に示すリサイクル動画カメラの正面、背面、上面及び底面を示す略線図である。

【図3】リサイクル動画カメラの記録系を示すブロック図である。

【図4】リサイクル動画カメラの記録系を示すブロック図である。

【図5】リサイクル動画カメラの映像再生機を示すブロック図である。

【符号の説明】

1……リサイクル動画カメラ、2……外筐、3……レンズ、4……ファインダ、5……動画ボタン、6……静止画ボタン、7……コネクタ、8……表示欄、9……個別ID、10……記録系、11……CCDカメラ部、13……カメラ信号処理部、31……ハードディスク、40……再生機。

【図1】

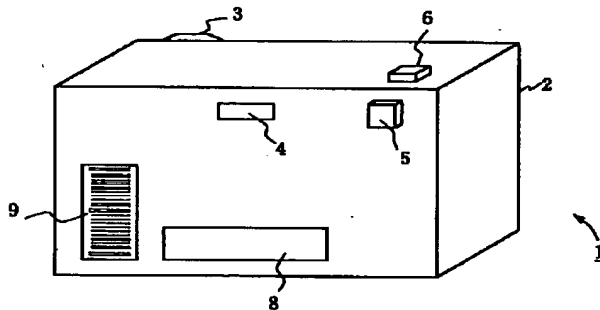


図1 リサイクル動画カメラ

【図2】

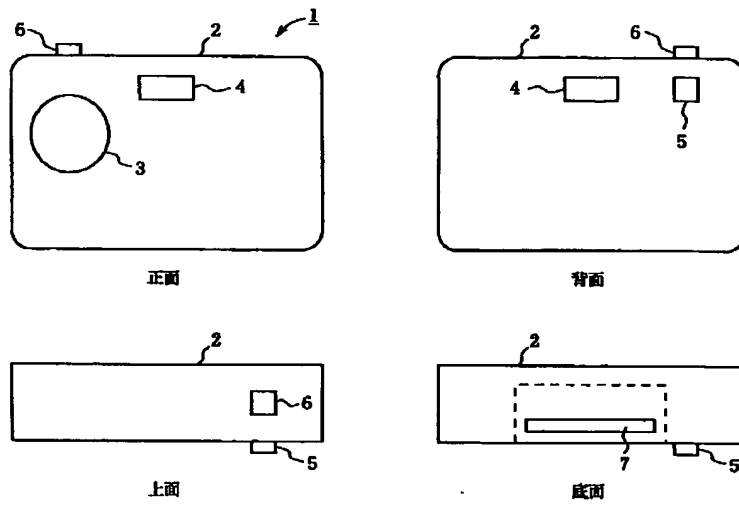


図2 リサイクル動画カメラ

【図3】

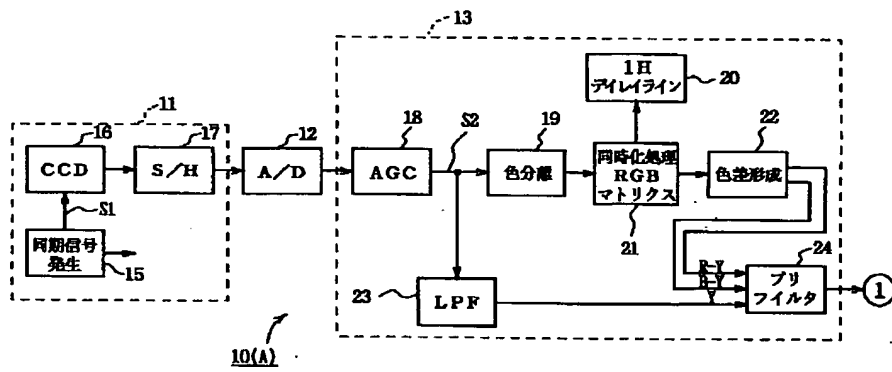


図3 リサイクル動画カメラの記録系(1)

【図4】

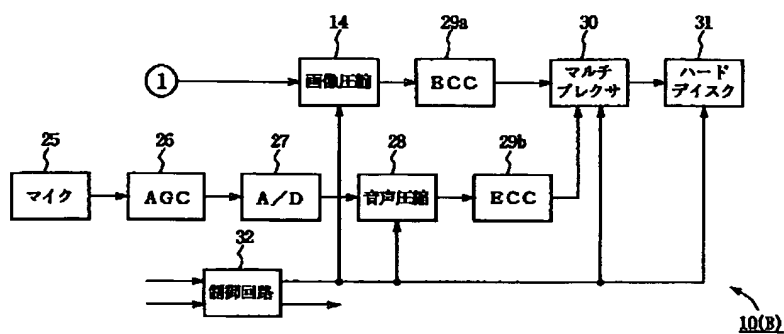


図4 リサイクル動画カメラの記録系(2)

【図5】

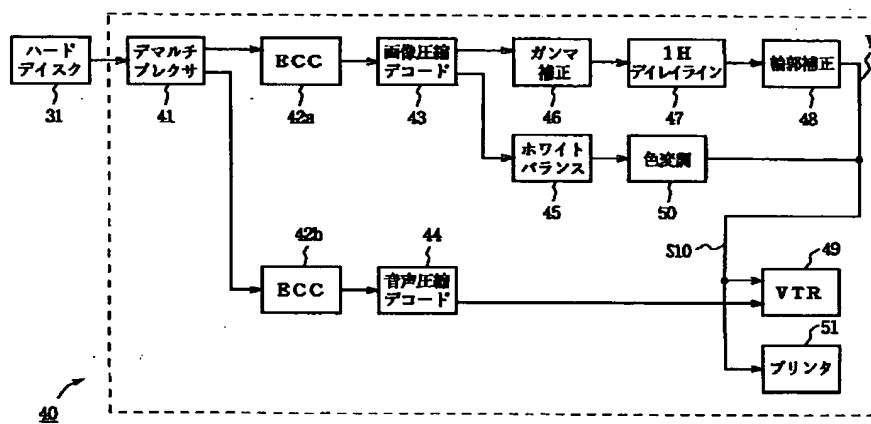


図5 リサイクル動画カメラの再生機